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FRANCIS HEMMING, C.M.G., C.B.E.

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BULLETIN OF ZOOLOGICAL NOMENCLATURE

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PROBLEMS REQUIRING CONSIDERATION IF PROVISIONS RELATING TO THE NAMING OF ORDERS AND HIGHER TAXONOMIC CATEGORIES ARE TO BE INCLUDED IN THE " RÈGLES " : AN APPEAL TO ZOOLOGISTS FOR ADVICE

By FRANCIS HEMMING, C.M.G., C.B.E.

(Secretary to the International Commission on Zoological Nomenclature)

(Commission's reference Z.N.(S.)360)

(For the decision by the Thirteenth International Congress of
Zoology that an investigation should be made in regard to
this subject, see 1950, *Bull. zool. Nomencl.* 4 : 386)

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Introductory

1. Introductory : The present paper is concerned with the problems which require to be considered if provisions relating to the naming of Orders and Higher Taxonomic Categories are to be inserted in the *Règles*. This is the third of the seven questions relating to the *Règles* which the Thirteenth International Congress of Zoology at its meeting held in Paris in 1948 considered required attention but which, in its opinion, needed further study before decisions were taken thereon; that Congress accordingly requested me, as Secretary to the International Commission on Zoological Nomenclature, to confer on this subject with interested specialists with a view to the preparation of a comprehensive Report, with recommendations, for consideration by the Fourteenth International Congress of Zoology when it meets at Copenhagen in 1953.

2. In the interval which has elapsed since the Paris Congress, I have taken every opportunity that has offered to obtain the views of specialists on this subject and in this way I have collected a certain amount of valuable material. For the reasons explained in the introductory note to the present series of papers (1952, *Bull. zool. Nomencl.* **7** : 1-3), I consider that the stage has now been reached at which a general consultation is desirable, in order to elicit the widest possible expression of opinion from interested specialists as to the action which it is desirable should be taken by the Copenhagen Congress in 1953. For this purpose I have prepared the present paper in which I have set out the various problems which, as it seems to me, it will be necessary for the Copenhagen Congress to consider if, as contemplated by the Paris Congress, the naming of Orders and other Higher Taxonomic Categories is then to be brought within the scope of the *Règles*; at the same time I have put forward various suggestions for consideration.

3. Limitations imposed by the historical background : The provision of means for regulating the names of Orders and higher taxonomic categories is one of extraordinary difficulty, for hitherto no attempt has been made either to apply the principle of priority to the names given to units belonging to these categories or to provide these concepts with a definite objective meaning by linking them for nomenclatorial purposes with a single organism to which in all circumstances the name applied to any given taxonomic unit belonging to these categories shall adhere. The present position is thus completely chaotic and can be compared only with the position which would exist in relation to generic names if workers were free both to disregard priority and also to vary the application of existing generic names without reference to the type species of the genera concerned. This extraordinary situation has led—and is still leading—to the utmost instability in the nomenclature of Orders and higher categories, authors, when bringing forward what they consider to be improved systems of classification, not hesitating to throw overboard Ordinal and Class names hallowed by long usage dating back in some cases even to Linnean days (as, for example, when a desirable revision of the fishes was accompanied by a wanton throwing away of the Class name “Pisces”). While the difficulties of importing order into this field are obviously very great, the need for so doing is equally obvious. Anyone attempting to obtain a general acquaintance with the relationships of the higher groupings in the Animal Kingdom is inevitably confronted with an extremely difficult

problem; any such student deserves every possible help and should be relieved of at least all those difficulties which are remediable. But in fact such a student is gravely hampered by the complete anarchy which exists in the terminology used for denoting the groupings which it is his task to study. Indeed, the utter disorder which reigns in this field of zoological nomenclature is much more than a serious handicap to the study of the structure of the Animal Kingdom; it is a grave reflection upon zoologists generally that they should have tolerated for so long a situation which is a reproach to the science which they follow.

4. General character of the nomenclatorial problem involved:

The nomenclatorial problems involved in the naming of Orders and higher taxonomic categories are essentially similar to those involved in the naming of families. In each case what is needed is a system which will provide a sufficient degree of stability for, and uniformity in, the names applied not to some entity possessing an objective existence of its own but to abstract concepts which for practical reasons it is convenient to recognise in the classification of the vast array of creatures which together constitute the Animal Kingdom. In approaching this problem, it will be useful therefore to do so by following paths parallel to those which it has been found necessary to tread when considering the question of the principles to be followed in the naming of families. We have to recognise however from the outset that the problem confronting us is much more difficult than that which arises in connection with family names, for defectives as are the provisions in the *Règles* relating to the naming of families, the fact that there are any rules on this subject and, in particular, that those rules are based upon the concept of a "type genus" has rescued family names from the abyss of confusion and inconsistencies into which the naming of the higher categories has been allowed to lapse. Moreover, as will be obvious, the problem involved in introducing some kind of order into the naming of Orders and higher categories has been gravely prejudiced by the fact that, whereas fifty years ago an effort was made (by the Berlin Congress of 1901) to regulate the naming of families, it is only now that, by direction of the Paris Congress of 1948, a corresponding effort is to be made in relation to the names of Orders and higher categories. Thus, in the present case, any scheme which may be devised will need to be weighted in favour of stability rather than uniformity, for an attempt to stress the latter at the expense of the former would inevitably lead to name-changing on a large scale which would be highly objectionable and would be unacceptable to the general body of zoologists. The most that can be hoped for at this late stage is therefore some system which will secure stability and uniformity in the names used for higher taxonomic groupings in particular sections of the Animal Kingdom, but which will not provide a uniform system of nomenclature applicable throughout the Animal Kingdom as a whole.

5. Content of an Order for nomenclatorial purposes: The first question which calls for attention in drawing up a plan for the regulation of the names of Orders is the means to be adopted for providing a fixed content for nomenclatorial purposes for each nominal Order dealt with. The problem here is exactly parallel to that which a hundred years or more ago zoologists had to face in order to provide a fixed content for each nominal genus. This

object was successfully achieved by the adoption of the type species concept, under which for nomenclatorial purposes one of the originally included species was fixed as the sole determining factor for the genus concerned; that species—and that species alone—belonged in all circumstances to the nominal genus in question; whether or not other species should also be referred to that genus was solely a matter of taxonomic judgment and one therefore which fell entirely outside the field of zoological nomenclature. At the present time nominal Orders are in exactly the same position as a nominal genus for which no species has been designated or selected as the type species; in each case the concept represented is indeterminate and, having no fixed foundation, is liable to be changed at any time in accordance with the shifting views of successive generations of taxonomists, there being no mechanism to ensure that at least some part of the group originally included in the nominal Order shall, in all circumstances, remain in that Order for nomenclatorial purposes. Quite clearly, no progress of any kind in the direction of securing stability in the names of Orders can be achieved until means are provided to overcome this fundamental defect. In other words, it is an essential preliminary that each nominal Order should be provided with a “type” which shall be irremovable from that Order and shall constitute the sole means by which that Order shall be identified. If in every Order the included genera were grouped into families, the natural course would be to provide that every nominal Order should have a “type family.” In many groups, however, there are well established Orders but taxonomic ideas in regard to the mutual relationships of the genera included in those Orders are not sufficiently understood for it to be possible as yet to subdivide those Orders into families, or at least there is not sufficient agreement among specialists to make it possible to regard as firmly established such families as have been recognised. In these circumstances there seem to me to be two possible ways of providing such an Order with the “type” which it must have if it is to represent an objectively determinate concept. First, it would be possible to provide (a) that every nominal Order shall have a type family or, in the default of families having been established in that Order, a type genus and (b) that, where a genus and not a family is selected to be the type of an Order that genus shall automatically become the type genus of the type family of that Order as soon as families are established within it. Second, it would be possible simply to provide (i) that every nominal Order must have a “type genus” and (ii) that the “type genus” of an Order shall also be the “type genus” of each successive nominotypical sub-unit (e.g. infra-Order, Sub-Order, etc.) into which the Order concerned may be divided. The question of the means to be adopted for providing nominal Orders and similar categories with “types” is one of exceptional difficulty. For reasons which will become apparent in due course, it will, I think, be convenient to defer until a later stage in the present paper the consideration of the rules to be adopted for the designation, indication or selection of “types” for nominal Orders and higher categories.

6. Terminations of Ordinal Names: The wide diversity of terminations currently in use for the names of Orders makes it quite clear that no uniform termination for Ordinal names throughout the Animal Kingdom can be established without inviting a widespread and most undesirable changing of

established names. It might however be possible to provide for uniformity within particular groups, where this was in accordance with the wishes of specialists in the groups concerned, for example, in the Class Aves where by general agreement the termination "-iformes" is adopted for Ordinal Names. If it were to be decided to provide for a limited measure of uniformity of this kind, it would be necessary to provide a standard by which to determine the area within the Animal Kingdom inside which any given uniform termination was to be used. This end could be attained in a number of different ways: For example, if it were decided to establish a uniform termination for Ordinal Names within a given Class, it would be possible to provide that the proposed uniform termination should be used for every Order regarded as belonging to the same Class as the Order which is the "type Order" of that Class. In many parts of the Animal Kingdom the ideas of systematists regarding the limits of Classes are, in the present state of knowledge, extremely fluid; it would be necessary therefore to consider what should be the position when an Order is removed on taxonomic grounds from the Class in which it has hitherto been placed. Should such an Order retain for its name the uniform termination which it had borne prior to its removal from the Class concerned or should it, on being removed from that Class be deprived of that termination for its name? This question will require careful consideration: the interests of stability would suggest that in such a case the name of the Order should remain unchanged; on the other hand, it might be felt that it would be misleading in such a case if an Order were to be permitted to retain, as the termination of its name, a termination prescribed for Orders belonging to a nominal Class to which the Order in question is no longer considered on taxonomic grounds to belong.

7. Relation of Ordinal Names to the names of other suprafamily taxonomic categories: In our consideration of the relation of the names of families to those of the subdivisions of families (i.e. subfamilies and tribes) (1952, *Bull. zool. Nomencl.* **7**: 85-86) we have seen that it is essential from a nomenclatorial point of view, to treat all these names as co-ordinate with one another, just as generic names and subgeneric names are already so treated. It is immediately evident that exactly similar considerations apply as between the names of Orders and the names of Sub-Orders and other minor divisions of Orders. It will be a matter for consideration whether the names of Orders should be treated as co-ordinate with those of Classes. The fluid state of taxonomic ideas in regard to many invertebrate groups suggests that this might be desirable, for, as systems of classification become more elaborated, there is a tendency to advance to the rank of Classes groups formerly regarded as constituting Orders; in consequence, extensive name-changing might be inevitable if the names of Orders and Classes were treated in entirely separate compartments. This subject is reverted to in paragraph 16 below.

8. Principles to be adopted in determining whether a given term was published as an Ordinal Name: It is probable that in the literature of the last hundred years there are few cases where it is doubtful, as regards any given term, whether or not it was published as an Ordinal Name. So far, therefore, as concerns names published in this period, there would from this point of view be no difficulty in determining whether or not the terms in question

should be accepted as having been published as the names of Orders or of nomenclatorially co-ordinate categories. When however we go back to the xviiith century and the first half of the xixth century, the position is far otherwise, for many names now accepted as Ordinal Names were published during that period in circumstances which it would be very difficult to bring within any definition of what constitutes the publication of an Ordinal Name. It seems likely therefore that in this matter—as in many similar cases—it will be found convenient to adopt a twofold definition, the first, the more lenient, to apply to names published before a certain date, the second, more rigorous, to apply to names published after the date referred to above but prior to the date of the introduction of the new provisions. Finally, for names published after the introduction of the new scheme, it will certainly be essential to provide (on the analogy of Proviso (c) to Article 25 in relation to generic names) that it shall be a necessary condition for the availability of a new Ordinal Name that, at the time when it is first published, the type family (or, as suggested above, the type genus) of the Order so named shall be clearly designated or indicated.

9. Ordinal Names and the Law of Priority : Just as we have seen that it would be entirely impracticable to require that the names of all Orders should have a uniform termination (see paragraph 6 above), so also it seems to me that it would be out of the question to apply the principle of priority for the purpose of determining the relative status of all Ordinal Names, for many of the older and therefore best known Ordinal Names would fail to pass such a test ; in consequence, many such names would disappear under such a system, being replaced by names which, though technically older, have virtually never been used and are today entirely unknown to any but close students of the history of zoology. While the principle of priority would thus be entirely inappropriate for application to names published during (say) the first hundred years following the establishment of zoological nomenclature in 1758, it could probably be applied successfully—with occasional exceptions—to the literature of the last hundred years. As regards the future—that is, the period following the introduction into the *Règles* of provisions relating to the naming of Orders—the principle of priority would not only clearly be workable but would also be the most equitable system to adopt. Thus, as in other cases where in the past either new provisions have been added to the *Règles* or old provisions have been revised, we are faced here with a situation in which it seems likely that it will be necessary to apply different standards to old names from those to be applied to more recent names published before the introduction of the scheme and that altogether more rigorous provisions will be needed for names published after the date of the introduction of the scheme.

10. Emendation of Ordinal Names : It will be necessary for the scheme to contain provisions relating to the emendation of Ordinal Names, for there are many such names now in use, for which emendations have been published, of which some have been accepted, while others (equally justified on etymological and similar grounds) have been rejected. Similarly, the scheme will need to prescribe the extent (if any) to which Ordinal names published after the coming into operation of the proposed scheme are to be subject to emendation. The general principle which I have recommended should be adopted in relation to the emendation of generic names (and trivial names) (1952,

Bull. zool. Nomencl. **7** : 12-14), namely the need for restricting the scope within which emendations should be permissible, (a) because of the great decline among zoologists in knowledge of, and interest in, the Latin and Greek Languages, and (b) because of the much greater importance attached now than formerly to the avoidance of irritating and pointless changes in names, applies with equal force, as we have seen (1952, *Bull. zool. Nomencl.* **7** : 11-14) to family names. In this matter, as in others, there would be no advantage whatever in applying to the names of Orders principles different from those to be applied to family names. I accordingly recommend that the scheme relating to Ordinal and co-ordinate names should provide that the emendation of such names shall be subject to the same conditions and procedure as that (proposed to be) prescribed for family names (see 1952, *Bull. zool. Nomencl.* **7** : 67-70).

11. Question of the names to be given to the nominotypical sub-units of Orders and Higher Taxonomic Categories : Under the *Règles* as they exist today, the nominotypical sub-units of both nominal genera and nominal species—that is, the subgenus containing the type species of the genus in which that subgenus is comprised and the subspecies of a polytypic species on which the original description of the species itself was based—do not bear independent names of their own but have names which are tautonymous, in the first case, with the name of the genus concerned and, in the second case, with the trivial name of the species concerned. Although the *Règles* contain no provision on this subject in relation to the nominotypical subfamilies and the nominotypical tribes of families, the same principle is commonly accepted in relation to names of units belonging to these categories and it has been suggested in the present series of papers (1952, *Bull. zool. Nomencl.* **7** : 85-86) that valid force should be given to this practice. When however we come to consider the parallel problem presented by the names of Sub-Orders of Orders, we find an entirely different position, for here the normal, if not the universal, practice is for each Sub-Order to have a name of its own, quite independent of the name of the Order within which the Sub-Order is comprised. That this should be so is no matter for surprise, since up till now Orders have not possessed types (either type families or type genera) and in consequence there has never been till now such a concept as that of a nominotypical Sub-Order. In these circumstances, it is clear that the introduction of a rule that the name of the nominotypical Sub-Order of an Order should be tantonymous with, or even necessarily based upon the same word as the name of the Order concerned (being distinguished therefrom only by a difference in termination) would serve no useful purpose and, through the name-changing which it would involve, would indeed be open to strong objection. Similar considerations apply to the names of the nominotypical Sub-Classes of Classes and the nominotypical Sub-Phyla of Phyla.

12. Citation of the name of the author of, and the date of publication of, Ordinal Names : Until comparatively recent times, the names of Orders were normally cited without particulars of authorship and date of publication, but in recent years the tendency has been for authors to give these particulars—usually for the purpose of providing some indication of the grounds on which the authors concerned have adopted one name in preference

to some other name for the Order concerned. If the names of Orders are to be brought under regulation, this practice should be formally recognised by the *Règles* as being correct, for it will be essential that in general works covering a substantial area of the Animal Kingdom particulars should be given of the "types" (whether type families or type genera) of the Orders dealt with, just as today in all similar works dealing with nominal genera particulars are (or should be) given of the type species of the genera concerned.

13. Homonymy as between Ordinal Names : One of the most objectionable results of the present chaotic state of Ordinal nomenclature is the co-existence of homonymous Ordinal Names. A striking example is provided by the term "Decapoda" which is, and has long been, in use as the name of an extremely well-known Order in the Class Crustacea and also as the name of a very well-known Order in the Class Cephalopoda. While such a situation may not seriously disturb specialists whose interests are confined exclusively to one or other of the Orders concerned, it represents nevertheless a serious reflection upon the present system of nomenclature for the higher categories in the Animal Kingdom, being both utterly illogical and entirely indefensible; it constitutes a serious handicap to teachers of zoology and a totally unnecessary source of confusion for students. From every point of view, therefore, it must be an essential condition of any rationalisation of the nomenclature of Orders and higher groups that a stop should be put to homonymy as between Ordinal Names. On the other hand, a provision similar to that already laid down in relation to generic names and to the trivial names of species and subspecies would clearly not be appropriate in the case of Ordinal names, for there could be no assurance that, in the case of the Ordinal names concerned, a rule that the junior of any pair of homonyms must always be rejected in favour of the senior homonym would provide the desired result, for it might well be found that in some of the cases involved it is the junior homonym, rather than the senior homonym, which it is of outstanding importance should be preserved in the interests of stability as a whole. It appears to me, therefore, that in this matter the best course would be for the scheme to provide not a fixed rule but rather some flexible mechanism which will ensure that the solution adopted shall in each case be the one calculated to produce the highest degree of stability, while causing the least possible inconvenience to workers in whichever of the Orders concerned some change in the Ordinal name used has to be made in order to escape from the existing situation of homonymy between the Ordinal names in question. It is accordingly suggested that for the present purpose the scheme should provide (1) that, where a situation of homonymy is found to exist as between two Ordinal or other nomenclatorially co-ordinate names, each published prior to the introduction of the revised scheme, the question which of the names in question is to be rejected in favour of the other is to be referred to the International Commission on Zoological Nomenclature for decision, it being the duty of the Commission in any such case to give preference to the more widely known and generally used of the names concerned, but (2) that, where a situation of homonymy arises either (a) between two Ordinal or nomenclatorially co-ordinate names, of which one was published prior to, and the other subsequent to, the introduction of the revised scheme or (b) between any two such names, both of which were published after the

foregoing date, the later published of the two names concerned is to be rejected as a junior homonym of the earlier published name. It is further suggested that applications under (1) above should be subject to the same procedure as that which I have recommended should be adopted in the like case as respects family names, that is, that the Commission should be required, on receiving any such application, to give public notice of its receipt in like manner as though it were an application involving the possible use of its plenary powers.

14. Suggested insertion in the " Règles " of a provision for the purpose of determining whether any two Ordinal or other co-ordinate names consisting of very similar but not identical words are to be treated as homonyms of one another : In the rules relating to homonymy in Ordinal (and co-ordinate) names, as in the rules relating to homonymy in names belonging to any other category, it will be necessary to provide means for determining whether any two Ordinal or co-ordinate names consisting of very similar, but not identical, words are to be treated as being homonyms of one another. In this matter no difference of principle exists by which names belonging to the foregoing categories are distinguishable from the names of families. It is accordingly suggested, therefore, that the scheme relating to the naming of Orders and allied categories should contain a provision applying to such names the provisions in this matter (which I have recommended should be) applied to family names (see 1952, *Bull. zool. Nomencl.* **7** : 83-84).

15. Homonymy between Ordinal Names and Generic Names : The Thirteenth International Congress of Zoology (Paris, 1948) incorporated into the *Règles* a provision based upon the Commission's *Opinion* 102 that the Law of Homonymy does not apply as between the names of Orders and higher categories on the one hand and the names of genera on the other hand, adding however at the same time a *Recommandation* deprecating the selection as generic names or trivial names of words previously published as the names of taxonomic units belonging to Sub-Ordinal or higher categories (1950, *Bull. zool. Nomencl.* **4** : 164-165). It has however more recently been suggested that that words already published as the names of Orders or higher categories should not be regarded as available for use as generic names at least for genera in the Order concerned, because of the confusion which would inevitably arise if the same word were to be used to denote both a whole Order and also a single genus within that Order. A case in point has arisen lately in connection with the recently unearthed generic name *Xiphosura* Brünnich, 1771, the name of a nominal genus objectively identical with (because possessing the same type species as) the nominal genus *Limulus* Müller (O.F.), 1785 ; the genus *Xiphosura* Brünnich (= *Limulus* Müller) is referable to the Order Xiphosura (Class Merostomata), and very strong objection has been lodged by specialists to the co-existence of the term " *Xiphosura* " both as an Ordinal Name and as a generic name. Any provision dealing with this problem would need to be such that a new generic name could not invalidate an established Ordinal Name and also that a new Ordinal Name could not invalidate an established generic name.

16. Names of Classes and Phyla : Hitherto we have considered the question of introducing rules for governing the names of units belonging to categories above the family level mainly from the standpoint of the names of

Orders, but we have noted that for practical reasons it will be desirable that the names of Orders and Classes should be co-ordinate with one another. Broadly speaking, the considerations which apply to the names to be given to Orders apply also to the names to be given to Classes and Phyla and their respective sub-units. In particular, it will be essential that, like Orders, these higher categories should be provided with types, which presumably would normally be, in the first case, type Orders and, in the second case, type Classes, for, like a nominal Order, a nominal Class or a nominal Phylum remains indeterminate until it has been provided with a type, by means of which its content for nomenclatorial purposes can alone be defined. It would be a matter for consideration whether the names of Phyla should be made co-ordinate with those of Classes. The answer to be given to this question will naturally depend mainly upon the view taken as to whether or not it is desirable that, when a group not previously assigned to any given Phylum is on taxonomic grounds treated as itself constituting a Phylum separate from any hitherto recognised, the name of Class rank hitherto borne by the group concerned should be promoted (with its existing priority) to the rank of a Phylum name. In view of the growing practice by which such promotions are made, it seems desirable that the names of Classes and Phyla should be made co-ordinate with one another.

17. Co-existence of Ordinal and Class Names based upon the same word: There are numerous cases where Ordinal Names and Class (or Sub-Class) Names are based upon the same word, differing from one another only by some slight variation in the termination employed. Just as it has been represented (see paragraph 15 above) that serious and quite unnecessary confusion is liable to arise from the co-existence of Ordinal Names and Generic Names consisting of the same word, so also it has been strongly urged that unnecessary confusion is liable to arise where slight variants of the same word are used to denote Orders and Sub-Classes and Classes. The representations on this subject received from teachers of zoology and palaeontology will require to be given careful consideration when the plan for regulating the names of Orders and higher taxonomic categories comes to be drawn up. My own feeling is that on balance the disadvantages involved in a change of the present practice would outweigh the advantages. It will, no doubt, be agreed that, from the point of view of giving oral instruction to students, it may often be an inconvenience—and, in some cases, even confusing—that successive strata in the hierarchy of categories recognised in taxonomic zoology should bear names based upon the stem of the same word and should differ from one another only by some slight difference in the termination employed. On the other hand, it seems likely that the number of names which would need to be altered if a change such as that discussed above were to be made would be considerable—in which case the proposal would offend against the canon that nothing should be inserted in the *Règles* that is calculated to lead to unnecessary name-changing. Moreover, the principle of using the same word as the base of names belonging to successive taxonomic categories is already well-established in the case of the names of families, subfamilies and tribes and their type genera. This practice does not give rise to confusion for the categories of names concerned, and it is not obvious why it should give rise to such results if it were to be applied—as it is, in fact, now applied—to the names of Orders and higher categories.

18. Proposed establishment of an "Official List of the Names of Orders and Higher Taxonomic Categories in Zoology": For reasons similar to those already explained in connection with the suggested establishment of an *Official List of Family Names in Zoology* (see 1952, *Bull. zool. Nomencl.* **7** : 90-91), it will clearly be necessary to include in the scheme for regulating the names to be given to Orders and higher taxonomic categories a provision establishing an *Official List of the Names of Orders and Higher Taxonomic Categories in Zoology*. The scope of this *Official List* and the duties of the Commission in relation to it would be similar to those prescribed in relation to the *Official Lists* already in existence. Thus, every Ordinal or other name, if the oldest available for the Order or other category concerned, regarding which the Commission took a decision would automatically be placed upon the *Official List*, as also would be the name of any Order (or other category) the type genus of which was placed on the *Official List of Generic Names in Zoology*. As in the case of the other *Official Lists*, there would need to be a provision, under which, at the discretion of the Commission, a second Ordinal (or equivalent) name could be placed on the *Official List*, with a note that it was so placed for use by those workers who considered that its "type" was not referable to the same Order as the "type" of the Order having the older name which was also on the *Official List*. Names placed on this *Official List* would be given the same relative status as names placed on the other *Official Lists*. The entries to be made on the *Official List* now proposed would follow generally the pattern set by the existing *Lists* and would include the bibliographical reference to the name concerned, the name of the "type" (whatever category may be accepted for this purpose), with a reference to the place where the name of that "type" (e.g., whether a family or a genus) was first published and information in a prescribed form regarding the manner in which the "type" acquired that position, whether by original designation, by indication, or by subsequent selection (in this latter case the necessary bibliographical reference being added). It is suggested further that, as in the case of the proposed *Official List of Family Names*, any given Ordinal or co-ordinate name should be entered on the *Official List* in precisely the form in which it was originally published, irrespective of whether or not the name in question is currently used as a name for a unit belonging to the category for which it was originally published or for some higher or lower category within the group of categories, the names of which would be co-ordinate with one another under the scheme contemplated. The duties of the Commission in relation to the proposed *Official List* would be the same as those for the existing *Official Lists*, that is, that it would be its duty to maintain and develop it by every means in its power. Concurrently with the establishment of the proposed *Official List* there would, again following the precedent set by the Congress in other cases, need to be established an *Official Index of Rejected and Invalid Names of Orders and Higher Taxonomic Categories*, on which would be placed all Ordinal and co-ordinate names rejected by the Commission or found by it to be invalid. The *Official List* and the *Official Index* so established would, like those already in existence, be embodied in Schedules annexed to the *Règles*. It will be seen from the foregoing summary that the provisions suggested for the proposed *Official List* and for the corresponding *Official Index* conform very closely to those laid down for the *Official Lists* and *Official Indexes*

already established and are virtually identical with those suggested for the *Official List* and *Official Index*, the establishment of which has been recommended as part of the plan for placing the naming of families and subordinate suprageneric units on a satisfactory footing (see 1952, *Bull. zool. Nomencl.* 7: 90-93).

19. Alternative approaches to the problem of regulating the naming of Orders (including subordinate suprageneric categories), Classes and Phyla: The foregoing survey of the problems involved in devising rules for the naming of Orders (including Sub-Orders and other subordinate suprageneric categories), Classes and Phyla shows that it would be perfectly practicable to lay down simple and easily operated rules in respect of most of the matters which would require to be dealt with. There would, however, be serious, though not insuperable, difficulty in devising such rules in relation to two of the problems involved, if extensive name-changing of the most objectionable character was to be avoided. The two problems are: (1) the determination, in respect of names published prior to about the middle of the nineteenth century, of the dates to be assigned to names currently adopted as Ordinal (or co-ordinate) names; (2) the method to be established for determining the "types" of taxonomic units established prior to the introduction of the proposed scheme. In these circumstances, there are, it is suggested, two alternative approaches to this problem, either of which would be practicable. Under *Alternative No. 1*, definite rules would be laid down in respect of all the problems involved; under this alternative the two problems of special difficulty would be dealt with by provisions which applied the Law of Priority to Ordinal names and to co-ordinate names of other categories and which prescribed that the "type" of any of a taxonomic unit belonging to any of these categories would be that one of the originally included units which was either so designated or indicated by the original author or was the first later to be selected as such. These two provisions would, under this Alternative, be subject, in each case, to a proviso that, where, in the opinion of specialists, the application of either or both of these provisions would lead to serious consequences through the changing of names involved, it would be open to those specialists to make application to the Commission that the normal rules be varied in the case of the name in question and it would thereupon become the duty of the Commission to decide what name should be used for the taxonomic unit concerned; it is suggested that it should be an instruction to the Commission in deciding such applications, to guide itself by the need for maintaining uniformity and promoting stability in nomenclature. It is further suggested that in such cases the Commission should be bound to give public notice of applications received in the same way as it has been suggested (in paragraph 13 above) that it should be required to do when considering applications relating to homonymy in Ordinal names and names of higher rank. Under *Alternative No. 2* the scheme would contain the same provisions as under *Alternative No. 1*, except in regard to the application of the Law of Priority and the method to be followed in determining the "types" of taxonomic units belonging to the categories with which we are here concerned. Under *Alternative No. 2* these matters would not be subject to hard and fast rules; there would, in place of such rules, be a provision in the scheme that

authorised the Commission, on the application of specialists (a) to determine the names to be accepted as valid for particular Orders, Classes and Phyla by authors who recognised those Orders, Classes and Phyla as taxonomically required, and (b) to prescribe the "type" to be accepted for the purpose of providing the units so named with an objective—and, therefore, determinate—concept. My own feeling is that of these *Alternatives*, No. 2 is greatly to be preferred to No. 1, for under it there would be no risk of undesirable disturbances in existing practice arising from the application of the rules (as might easily happen under *Alternative No. 1*), while at the same time provision would be made for the orderly stabilisation of Ordinal names and names of higher rank in those groups where the workers concerned were especially conscious of the need for an improved system for the naming of Orders and higher taxonomic categories and were anxious to secure stability for the names of units belonging to such categories in their own groups.

20. Appeal to zoologists for advice: Having now completed a survey of the problems which will have to be faced in devising any scheme for regulating the naming of taxonomic units belonging to the category Order and higher categories and having offered suggestions as to various ways by which some of these problems could be met, I commend the whole subject to zoologists for consideration and advice. It is my hope that Nomenclature Committees of Natural History Museums and similar scientific institutions will take this problem into consideration and will furnish statements of the views of their members on the various issues involved. Similar statements from individual specialists will also be extremely welcome. The subject affects workers in every branch of zoology and is of equal interest to neontologists and palaeontologists. Under the instructions given by the Paris Congress a Report on this subject, with definite recommendations must be prepared for consideration by the Copenhagen Congress in 1953, and it is particularly hoped therefore that there will be a very full and detailed response to the present appeal for advice, so that the Report which it will be my duty to prepare may be based upon whatever is found to be the solution most generally desired. If that Report is to be properly considered before the Copenhagen Congress, it ought to be published in the *Bulletin of Zoological Nomenclature* well before that Congress opens; for this purpose the Report itself ought to be completed by the autumn of 1952. It is accordingly particularly hoped that committees and individual specialists will formulate their views as quickly as is possible, so that these may reach me, as Secretary to the Commission (28, Park Village East, Regent's Park, London, N.W.1, England) not later than the end of July, 1952. Finally it is particularly asked that comments should be type-written, double-spaced on one side of the page only and should be furnished in duplicate. All signatures should be clearly typed as well as given in the writer's usual script. Every statement should be clearly marked with the Commission's Reference Number, Z.N.(S.)360.

**ON THE QUESTION OF THE SPECIES TO BE ACCEPTED AS
THE TYPE SPECIES OF A NOMINAL GENUS, THE NAME OF
WHICH WAS PUBLISHED PRIOR TO 1ST JANUARY 1931
IN THE SYNONYMY OF A PREVIOUSLY ESTABLISHED
NOMINAL GENUS : AN APPEAL TO ZOOLOGISTS FOR
ADVICE**

By FRANCIS HEMMING, C.M.G., C.B.E.

(*Secretary to the International Commission on Zoological Nomenclature*)

(Commission's reference Z.N.(S.)387)

(For the decision by the Thirteenth International Congress of Zoology
that an investigation should be made in regard to this subject, see 1950,
Bull. zool. Nomencl. **4** : 352)

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Preliminary Considerations

1. Introductory : The present paper is concerned with the relatively narrow problem of the species to be accepted as the type species of a nominal genus established prior to 1st January, 1931 (i.e., prior to the coming into operation of Proviso (c) to Article 25), when the name of the genus in question was published in the synonymy of some previously established nominal genus. The present is the fourth of the seven problems relating to the *Règles* which the Thirteenth International Congress of Zoology at its meeting held in Paris in 1948 considered required attention but which, in its opinion, needed further study before decisions were taken thereon ; that Congress accordingly requested me, as Secretary to the International Commission on Zoological Nomenclature, to confer on this subject with interested specialists with a view to the preparation of a comprehensive Report, with recommendations, for consideration by the Fourteenth International Congress of Zoology when it meets at Copenhagen in 1953.

2. In the interval which has elapsed since the Paris Congress, I have taken every opportunity which has offered to obtain the views of specialists on this subject. In this process a suggestion has been made which, if adopted, would render the further pursuit of the present investigation unnecessary by having eliminated altogether the problem which the Paris Congress charged me to consider. The suggestion referred to above is described briefly in paragraph 5 below. It was originally put to me in a paper enclosed with a letter dated 30th August, 1950, by Dr. Ernst Mayr (American Museum of Natural History, New York), which dealt not only with the present subject but also, and perhaps principally, with the parallel problem which arises when a new specific trivial name is found to have been first published on a date prior to 1st January, 1931, in the synonymy of the names applied to a previously established nominal species. On receipt of Dr. Mayr's communication, I prepared a short summary of the principal points which it appeared to me to raise and, through the kindness of the editors concerned, that summary was published shortly afterwards in the *Geological Magazine* and in the *Journal of Paleontology*. The publication of the foregoing summary has elicited a number of comments, almost all of which are directed only to that part of Dr. Mayr's communication which is concerned with the trivial names of species. In February, 1951, Dr. Mayr suggested that his paper (which in the meantime he had revised in certain respects) should be published in the *Bulletin of Zoological Nomenclature*. It has not yet been possible to comply with this request owing to the exceptionally large amount of matter which was then in the hands of the printer ; that paper is, however, now in the hands of the printer and will shortly be published in Volume 6 of the *Bulletin of Zoological Nomenclature*. In so far as the publication of Dr. Mayr's paper elicits comments bearing upon the limited subject with which the present investigation is concerned, particulars of those comments will be included in the Report to be made at the conclusion of the present investigation.

3. I am of the opinion that the stage has now been reached at which a general consultation with specialists is desirable, in order to elicit as wide as possible an expression of opinion from interested specialists as to the action

which it is desirable should be taken in this matter by the Copenhagen Congress in 1953. It is for this purpose that I have prepared the present paper in which I have set out the issues involved in the relatively simple problem with which the present investigation is concerned.

4. Action taken by the Thirteenth International Congress of Zoology, Paris, 1948 : In considering the action taken in the present matter by the Thirteenth International Congress of Zoology at its meeting held in Paris in 1948, it is necessary to appreciate that that action was taken in two stages, of which the second was no more than consequential upon the first. (1) At its Sixth Meeting during its Paris Session the International Commission on Zoological Nomenclature considered the question of the incorporation into the *Règles* of the decision which it had taken forty-one years earlier when it adopted its *Opinion* 4. As regards this, the Commission recommended that words should be inserted in the *Règles* to make it clear "that a manuscript name acquires status in zoological nomenclature only when it is validly published in conditions which satisfy the requirements of the provisos to Article 25, and that the status of a manuscript name so published is not affected by the question whether the author by whom it is published accepts it as a valid name or sinks it as a synonym" (1950, *Bull. zool. Nomencl.* **4** : 145-146). (2) At the Twelfth Meeting of its Paris Session the Commission had under express consideration the question of the application, to generic names published in generic synonymies, of the provisions of Article 30 ; as regards this the Commission agreed to recommend "that the Secretary to the Commission should be invited to make a thorough study, in conjunction with interested specialists, of the problems relating to the determination of the type species of a genus, the name of which was first published in the synonymy of some other genus, and to submit a comprehensive Report thereon, with recommendations, for consideration by the Commission at their meeting to be held during the next (xivth) meeting of the Congress, with a view to the submission by the Commission to the Congress of recommendations for the insertion in the *Règles* of appropriate provisions dealing with the above matter" (1950, *Bull. zool. Nomencl.* **4** : 351-352). These recommendations were subsequently approved with other recommendations by the Section on Nomenclature (1950, *Bull. zool. Nomencl.* **5** : 67-76, 103) and by the Congress itself at its final plenary session (1950, *ibid.* **5** : 131).

5. The proposal submitted by Dr. Ernst Mayr in February, 1951 : The main argument advanced by Dr. Mayr in the application which he submitted in February, 1951, was that, in formulating its recommendation to the Paris Congress for the incorporation in the *Règles* of the decision taken in the forty-one-year-old *Opinion* 4, the Commission had misunderstood the purport of that *Opinion*. In Dr. Mayr's view, the Commission in that *Opinion* did not rule that a manuscript name published in a synonymy thereby acquired status in zoological nomenclature ; on the contrary, a name so published was a *nomen nudum* ; it was only when a later author published a manuscript name "with the standard provisions of Article 25, namely, an adequate description, an illustration or a bibliographic reference to a previously published description or illustration" that, in Dr. Mayr's view, such a name became subject to the provisions of *Opinion* 4. Dr. Mayr concluded his paper by a

recommendation that there should be an immediate repeal of the ruling (attributed by Dr. Mayr to *Opinion* 78, where, however, this subject is dealt with only in the "Discussion" and not in the "Summary") "which interprets the (erroneous or not) listing in synonymies as a valid indication in the sense of Article 25. Manuscript names should be added to the category of names (such as pre-Linnean names) that have no nomenclatorial rights. No exception should be granted to their status, not even quickening in synonymy." Although all the examples cited in Dr. Mayr's paper relate to the trivial names of species, his actual proposal is quite general and (as he has informed me) applies just as much to generic names published in generic synonymies as to trivial names published in specific synonymies.

6. Procedure proposed for the examination of the problems submitted:

There is a danger of confusion arising in connection with the consideration of the problems discussed in the foregoing paragraphs, unless special pains are taken to prevent this from happening. For on the one hand there is the decision by the Congress that I am to prepare, in consultation with specialists, a Report on the question of the species to be accepted as the type species of a nominal genus, the name of which is first published in a generic synonymy, while on the other hand we have Dr. Mayr's application which, though primarily concerned with specific trivial names, is so drafted as to cover also generic names published in generic synonymies and which, if accepted, would automatically eliminate the problem on which the Congress has instructed me to furnish a Report. In the circumstances the most convenient course—and indeed, in my view, the only practicable course—will be the following:—

- (1) At the present preliminary stage consideration should be given to the problem of generic names published in generic synonymies separately from the problem of trivial names published in specific synonymies. Under the first head I should propose to include in the Report which I have been charged to prepare not only the narrow question of how to determine the type species of a nominal genus, the name of which was first published in the foregoing manner (the question expressly referred to me by the Paris Congress) but also the wider question whether such generic names should be accepted at all (this forming part of Dr. Mayr's application). Under the second of the proposed heads, consideration would be given to the question whether a trivial name published in a specific synonymy should be accepted as possessing any status in zoological nomenclature (this being the remaining and the principal part of Dr. Mayr's application).
- (2) For the foregoing purpose, the present request for the views of specialists is confined to the problems raised by generic names published in generic synonymies; as regards the second part of the problem (namely the position of trivial names published in specific synonymies), Dr. Mayr's paper, which is being published immediately in the next available Part of Volume 6 of the *Bulletin of Zoological Nomenclature*, will provide the necessary opportunity for securing the views of interested specialists.

- (3) On receipt of comments on both of the foregoing problems, those problems should, I suggest, be considered together, if the comments received suggest that it is the general desire of zoologists that these two questions should be treated as forming part of a single problem.

(a) Question whether a generic name published, prior to 1st January, 1931, in a generic synonymy should be granted any status in zoological nomenclature in virtue of being so published

7. View taken by the International Congress of Zoology, Paris, 1948 :

As has been explained in paragraph 4 of the present note, both the International Commission on Zoological Nomenclature and the Thirteenth International Congress of Zoology at their meetings held in Paris in 1948 considered the position of generic names published prior to 1st January, 1931, in generic synonymies and came to the conclusion that such names were available under the *Règles* and that the only problem which called for consideration was the species to be accepted as the type species of such genera. No zoologists, either at the public meetings of the Commission at which this matter was considered or in the Section on Nomenclature suggested that it was undesirable that generic names published in the foregoing manner should be held to be available for nomenclatorial purposes. The whole discussion centred around the application to be given to generic names published in this way, that is, what species should be accepted as the type species of a nominal genus, the name of which was first published in the foregoing manner. It was for this reason that the Report which I was then asked to prepare, in consultation with specialists, was concerned only with this latter question.

8. Dr. Ernst Mayr's application : The proposal since submitted by Dr. Ernst Mayr (paragraph 5 above) is concerned mainly with the question whether any status should be granted to manuscript names, whether generic or trivial, when published respectively in generic or specific synonymies. As already explained, that application, so far as the examples given illustrate it, is concerned entirely with the trivial names of species, but the general wording employed makes it applicable also to manuscript generic names, when published in generic synonymies. The problem which arises in connection with these two classes of name is identical in principle and it is certainly entirely logical that the two problems should be considered together, though naturally this does not exclude the possibility that there may be practical reasons which may make it desirable to treat these two classes of names in different ways.

9. So far as concerns generic names published, prior to 1st January, 1931, in generic synonymies, Dr. Mayr's proposal is essentially that the Commission at its next meeting should reverse the advice which it gave to the Paris Congress when it recommended the incorporation in the *Règles* of the ruling set out in *Opinion 4*, as then interpreted by itself. For under his proposal, a generic name which when first published, was synonymised with some other generic name, would acquire thereby no status in zoological nomenclature, except (as Dr.

Mayr explained when he later visited me in London) when an author "A" published (1) a manuscript name proposed by some author "B", at the same time either quoting author "B's" manuscript diagnosis or indicating the species included by that author in his manuscript "genus", and (2) thereupon synonymised the nominal genus bearing the hitherto manuscript name with some other nominal genus having an older and available name. In my experience this is a very unusual set of circumstances, but Dr. Mayr informs me (*in litt.*, 8th February, 1952) that in groups with which he is familiar it has happened not infrequently that an author has published a deceased author's manuscripts and, in doing so, has commented upon the validity of the names which he so published.

10. Questions arising out of Dr. Ernst Mayr's application on which the views of specialists are desired: The following are the questions arising out of Dr. Mayr's application on which the advice of specialists is invited: (1) In the group in which you work is it the practice to accept as nomenclatorially available a manuscript generic name or a generic name which previously had existed only as a published *nomen nudum*, when and as from the date on which that generic name was published in the synonymy of a previously published name? Please state to which group of the Animal Kingdom the answer to the foregoing answer applies. (2) If the answer to the above question is "Yes", are you in favour of its being made clear in the *Règles* (as was done by the Paris Congress) that a generic name so published before 1st January, 1931, is to be accepted as having been validly published? (3) If the answer to Question (1) is "No", are you in favour of a reversal of the Paris decision, i.e. are you in favour of its being made clear in the *Règles* that a generic name published in the foregoing manner does not thereby acquire any standing in zoological nomenclature? If the answer to the above question is that you do favour a modification of the Paris decision in the foregoing manner, would your view be altered if it were to be found that in groups other than your own such a decision would cause instability through the name-changing which it would involve?

(b) Question of the species to be accepted as the type species of a nominal genus, the name of which was published prior to 1st January, 1931, in the synonymy of a previously established nominal genus

11. The nature of the problem arising in connection with the species to be accepted as the type species of a nominal genus, when, on being first published, that name was published in the synonymy of a previously published generic name: In the preceding section, we have drawn attention to Dr. Ernst Mayr's proposal that a manuscript generic name should not acquire any status in zoological nomenclature in virtue of being published in the synonymy of some other generic name. If the Copenhagen Congress, on the recommendation of the Commission, were to decide in favour of the proposal submitted by Dr. Mayr, the question of the type species of a nominal genus, the name of which was first published in this way (the question on which the

Paris Congress in 1948 invited me to prepare a Report for submission to the next Congress) would fall to the ground, for there would be no point in considering what should be accepted as the type species of a nominal genus, the name of which was invalid. If however the Copenhagen Congress were to take the opposite view, the question of the species to be accepted as the type species of a nominal genus, the name of which had, prior to 1st January, 1931, been published in this admittedly unsatisfactory way would call for immediate decision. The present section is accordingly devoted to this latter problem, without prejudice to the answer to be given to the previous question.

12. A hypothetical example of the situation on which a ruling is required: The problem which it is now necessary to consider may most easily be brought out by a hypothetical example. Let us suppose that in 1758 Linnaeus established a nominal genus *X-us* with no designated or indicated type species but with three validly established nominal species, namely *X-us a-us*, *X-us b-us*, and *X-us c-us*. Let us further suppose that in 1810 Latreille selected *X-us b-us* as the type species of the genus *X-us* Linnaeus, 1758. Finally, let us suppose that in 1830 some author "*M*" published a paper in which (i) he used the generic name *X-us* Linnaeus, 1758, (ii) cited the manuscript name *Y-us* Smith in the synonymy of *X-us* Linnaeus, and (iii) placed in the nominal genus *X-us* Linnaeus five nominal species, namely (a) two of the original Linnean species (*X-us a-us* and *X-us c-us*) and three new species (*X-us m-us*, *X-us n-us*, and *X-us o-us*).

13. The alternative solutions possible: The question to be settled is (1) whether the type species of the nominal genus *Y-us* "*M*", 1830, is automatically in all circumstances the same species as that which is the type species of *X-us* Linnaeus or (2) whether all the nominal species cited by the author "*M*" in 1830 as belonging to the genus *X-us* Linnaeus, with which the new nominal genus *Y-us* "*M*" was then identified (the name *Y-us* "*M*" being then treated as a synonym of *X-us* Linnaeus) are to be regarded as eligible for selection as the type species of the nominal genus *Y-us* "*M*", 1830. Turning back to the hypothetical example given above, we find that, if the foregoing question is answered as in (1) above (i.e. if the type species of *Y-us* "*M*" 1830 is automatically the same species as that of *X-us* Linnaeus, 1758), the type species of *Y-us* "*M*" is automatically the species *X-us b-us* Linnaeus, 1758, that species having already been selected (by Latreille in 1810) as the type species of *X-us* Linnaeus, 1758. In this case the type species of *Y-us* "*M*", 1830, would, it will be noted, be a species not cited by the author "*M*" when in 1830 he first published the generic name *Y-us* (in the synonymy of the genus *X-us* Linnaeus). If on the other hand the question with which we are concerned were to be answered in the sense of (2) above (i.e. if, notwithstanding the manner in which the generic name *Y-us* was published by the author "*M*", the nominal genus *Y-us* "*M*" so published represents a nomenclatorial entity entirely distinct from that represented by the nominal genus *Y-us*—Linnaeus), the fact that (in our hypothetical example) Latreille had already in 1810 selected the species *X-us b-us* to be the type species of the genus *X-us* Linnaeus would not in any way affect the question of the type species of the nominal genus *Y-us* "*M*", 1830; in that case the

position would be that the generic name *Y-us* "M" would be a name published (a) with an "indication" (because the trivial names of duly published nominal species were published in connection with the name *Y-us* "M"); (b) without a designated or indicated type species. Accordingly, any one of the five species cited by the author "M" as belonging to the genus *X-us* Linnaeus—and therefore, also to the genus *Y-us* "M"—would be eligible for selection by any later author to be the type species of the nominal genus *Y-us* "M", 1830. (It will be appreciated that the foregoing hypothetical example has been drawn up on the basis of the assumption adopted by the Paris Congress that the publication by "M" in 1830 of the (at that time) manuscript name "*Y-us* Smith" in the synonymy of "*X-us*" Linnaeus, 1758, conferred availability upon the name "*Y-us*" as from Smith, 1830. Under the proposal submitted by Dr. Mayr (paragraph 11 above) the name "*Y-us*" would acquire no availability from being published in the foregoing manner by Smith in 1830. The manuscript name "*Y-us* Smith" would not, under Dr. Mayr's proposal acquire any availability until such later time (if any) as Smith (or one of his collaborators) published that generic name in conditions which satisfied the requirements of Article 25. The type species of "*Y-us* Smith" as ultimately so published would be whatever nominal species Smith (or his collaborator by whom the (till then) manuscript name "*Y-us* Smith" was so published) might then either "designate" or "indicate" or, if no such species was then either designated or indicated, whichever of the species included by Smith (or his collaborators) was first later selected to be the type species. It will be seen therefore that, under Dr. Mayr's proposal, the action taken (in the hypothetical example given in the present paragraph) by Smith in 1830 would have no influence at all on the question of the species to be accepted as the type species of "*Y-us* Smith", when at some later date that manuscript name was published by Smith (or one of his collaborators).)

14. Need for information regarding current practice by specialists in different parts of the Animal Kingdom: In cases of this kind, where the *Règles* fail to give clear guidance as to the action which should be taken, it almost invariably happens that specialists in different groups or even in the same group have adopted different procedures. Accordingly, the first step in such a case is to ascertain what is the practice that has actually been followed by specialists in different parts of the Animal Kingdom, in order thereby to find out what is the majority practice. Only by this means is it possible to reach an informed opinion as to which of the possible courses open to the Congress to take would be most in harmony with the general wishes of specialists and the course best calculated to promote nomenclatorial stability and to avoid confusing and unnecessary name-changing.

15. Probable need for a saving clause to prevent the interpretation now to be given from causing confusion and objectionable name-changing in particular cases: When in Paris in 1948 the International Congress of Zoology either introduced new provisions or gave rulings on questions regarding which the meaning of the *Règles* had previously been obscure or subject to debate, it adopted, so far as possible, the principle that the new provision or, as the case might be, the new interpretation should not

be allowed to give rise to confusion and objectionable name-changing in those cases where the current practice of specialists had been the minority practice then ruled to be incorrect. For this purpose the Congress normally agreed to insert a provision making it the duty of the International Commission on Zoological Nomenclature to use its plenary powers for the purpose of preventing disturbance of current nomenclatorial practice in such cases. It will, no doubt, be generally agreed that a similar provision will be desirable in the present instance, if, as must be expected, it is found that there is no uniformity among specialists in dealing with cases of the kind here under consideration.

16. Questions on which the advice of specialists is now sought : The problems discussed in the present Section (Section (b)) arise, as has already been explained (paragraph 2), only if the answer " Yes " is given to the first of the questions asked at the end of Section (a) (paragraph 10). The following questions, on which advice is now sought, are therefore addressed only to those specialists who give an affirmative answer to the question referred to above : (1) In the case of a nominal genus, the name of which was originally published in a generic synonymy, do you, in your own group, (a) treat, as the type species of the genus concerned, the species (whatever it may be) which is the type species of the nominal genus, with the name of which the generic name under consideration was synonymised at the time when it was first published, or (b) do you regard, as eligible for selection as the type species of such a genus, all the species cited on the occasion when the generic name was first published in the synonymy of another generic name ? (2) Have you any knowledge of the practice in this matter followed in allied or other groups ? If so, please give particulars. (3) Which of the possible methods of dealing with this problem do you favour as being the method best calculated to cause the minimum degree of disturbance in existing nomenclatorial practice ?

**THE APPLICATION TO BE GIVEN TO A TRIVIAL NAME
WHICH, WHEN FIRST PUBLISHED, WAS BOTH APPLIED
TO A PARTICULAR SPECIES OR TO PARTICULAR SPECI-
MENS AND ALSO STATED TO BE A SUBSTITUTE NAME
FOR SOME PREVIOUSLY PUBLISHED TRIVIAL NAME
OR WAS CLEARLY IMPLIED TO BE SUCH A SUBSTITUTE:
AN APPEAL TO ZOOLOGISTS FOR ADVICE**

By FRANCIS HEMMING, C.M.G., C.B.E.

(Secretary to the International Commission on Zoological Nomenclature)

(Commission's reference Z.N.(S.)361)

(For the decision by the Thirteenth International Congress of Zoology
that an investigation should be made in regard to this subject, see 1950,

Bull. zool. Nomencl. **4** : 502)

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Preliminary Considerations

1. Introductory: The present paper is concerned with the application to be given to a trivial name, when, on being first published, that name (i) is applied to a particular species or to particular specimens and (ii) is stated also to be a substitute name for some previously published trivial name or is clearly implied to be such a substitute. The present is the fifth of the seven problems relating to the *Règles* which the Thirteenth International Congress of Zoology at its meeting held in Paris in 1948 considered required attention but which, in its opinion, needed further study before decisions were taken thereon; that Congress accordingly requested me, as Secretary to the International Commission on Zoological Nomenclature, to confer on this subject with interested specialists, with a view to the preparation of a comprehensive Report, with recommendations, for consideration by the Fourteenth International Congress of Zoology when it meets at Copenhagen in 1953.

2. The problem with which the present investigation is concerned is a rare one—in my own reading I have only once encountered a case of this kind. This is fortunate, in that it makes it easier both to lay down a logically based rule of general application, while restricting within a very narrow compass the number of individual cases where the application of such a rule would lead to an undesirable disturbance of nomenclatorial practice. Our aim must therefore be to elicit from specialists such examples as they may be able to provide from their own experience and thus to determine the way in which this problem has been most generally handled, when it has arisen. The fact that this problem is one of rare occurrence makes it impossible to achieve any effective progress, except by means of a general consultation. It is for the purpose of initiating such a consultation that I have prepared the present paper, in which I have taken as illustrations of various aspects of this problem the two cases which have been submitted to the International Commission by individual specialists, the preliminary consideration of which led to the decision that the present investigation should be undertaken. The first of these applications (Z.N.(S.)179) was received from Dr. W. J. Arkell, F.R.S. (then of the University Museum, Oxford, now of the Sedgwick Museum, Cambridge), and was concerned with the present problem, as it arises in connection with certain names given to ammonites. The second of these applications (which, by a curious coincidence, was received on the same day as Dr. Arkell's application) is an application (Z.N.(S.)180) submitted by Dr. H. E. Hinton (then of the British Museum (Natural History), London, now of the University of Bristol) and was concerned with a name given to a beetle. The problem with which we are concerned was raised in the simplest and most direct form in the case submitted by Dr. Hinton, while the case submitted by Dr. Arkell was complicated by certain special features. For the sake of simplicity in the presentation of the present problem, I have thought it convenient to describe first the case submitted by Dr. Hinton, and a similar case submitted by Dr. Arkell, before dealing with the more complicated case set out in the second part of the application submitted by Dr. Arkell.

3. I hope very much that Nomenclature Committees of Natural History Museums and similar scientific institutions will be good enough to furnish

particulars of cases in which the problem with which the present paper is concerned may have been met with by their members in the course of their work, together with statements setting out the views of their members as to the best way of dealing with this subject. It is very much hoped also that individual specialists who have encountered the present problem will be good enough to furnish particulars of the cases concerned and will state how in those cases the problem involved has been dealt with by specialists in the group concerned.

4. I am most anxious that the Reports on the problems specifically referred to me by the Paris Congress should be completed in sufficient time to enable them to be published in the *Bulletin of Zoological Nomenclature* well before the meeting of the Copenhagen Congress in 1953. It will be a great help from this point of view if Nomenclature Committees and individual specialists responding to the present appeal for advice will be good enough to furnish their comments on the present problem not later than 31st July, 1952.

5. For the reasons explained in the preliminary note to the present series of papers, the work of the Secretariat of the Commission (which possesses no whole-time clerical and typing staff) will be greatly assisted if communications in regard to the present case are prepared in typescript, on one side of the page only, double-spaced and with wide margins and if they are furnished in duplicate.

6. All communications in response to the present appeal should be clearly marked with the Commission's Reference Number Z.N.(S.)361, and should be addressed to myself, as Secretary to the Commission (address: 28 Park Village East, Regent's Park, London, N.W.1, England).

(a) Case where a trivial name, when first published, is both directly applied to a given species or given specimens and is expressly stated also to be a substitute name for a previously published name or for some incorrect use of such a name

7. The case of the name "*Ptinus tectus*" Boieldieu, 1856, raised by Dr. H. E. Hinton: The problem which arises when a specific name is published simultaneously as a new name for a given species or for given specimens and also as a substitute name for some other specific trivial name previously published for some nominal species may be illustrated by the particular example submitted to the International Commission on Zoological Nomenclature by Dr. H. E. Hinton (Commission File Z.N.(S.)180), which was concerned with the application of the trivial name *tectus* Boieldieu, 1856, as published in the binominal combination *Ptinus tectus* (Class Insecta, Order Coleoptera). Boieldieu applied this name to a Tasmanian insect, which he explained that he regarded as identical with a species already named *Ptinus pilosus* White, [1846]; it was only because, so he made clear, White's name was a junior homonym of the name *Ptinus pilosus* Müller, 1821, that he did not apply that name to the Tasmanian insect with which he was concerned and felt bound to provide a new name (*Ptinus tectus*) for White's *Ptinus pilosus*. Dr. Hinton went on to explain that subsequent investigation had shown that the Tasmanian

insect to which Boieldieu applied his new name *Ptinus tectus* was not only not conspecific with *Ptinus pilosus* White, but actually belonged to an entirely different group, Boieldieu's Tasmanian insect being a true Ptinid, while White's *pilosus* was an Anobiid. The question submitted by Dr. Hinton was whether the trivial name *tectus* Boieldieu, 1856, should be held to apply (1) to the Tasmanian Ptinid described by Boieldieu under that name or (2) to the Anobiid species to which White had (in 1846) applied the trivial name *pilosus*, for which Boieldieu expressly stated that the trivial name *tectus* was proposed as a substitute (*nom. nov.*).

8. The case of the name "Quenstedtoceras douvillei" Maire, 1938 raised by Dr. W. J. Arkell: A problem exactly parallel to that presented by the name *Ptinus tectus* Boieldieu, 1856, was raised in the first part of the application submitted to the International Commission by Dr. W. J. Arkell in regard to names published for species of ammonites by V. Maire in 1938. The nominal species so established were denominated as "*nom. mut.*" (presumably the equivalent of the expression "*nom. nov.*"); in all the cases in question the nominal species so named were based partly upon newly figured specimens and partly upon references to previously published descriptions and figures. In some cases the trivial name selected for the newly named nominal species was based upon the name of the author to whose previously published papers reference was made in the description of the newly named nominal species; for example, the new name *Quenstedtoceras douvillei* was published as a "*nom. mut.*", the species so named being based partly upon newly figured material and partly upon descriptions and figures previously published by Douvillé.

9. Three possible ways of interpreting names published in the manner in which the names "*Ptinus tectus*" and "*Quenstedtoceras douvillei*" were published by their respective authors: There are three ways in which it would be possible to interpret a trivial name published in the manner in which Boieldieu published the name *Ptinus tectus* and Maire published the name *Quenstedtoceras douvillei*. These are :—

- (1) The nominal species so named could be treated as being, at the time of the publication of its name, a composite nominal species comprising both the species bearing the name rejected and replaced by the new name in question and also the species described (and/or figured) under the new name. If this view were adopted, the nominal species concerned would become subject to the provisions of Article 31 of the *Règles*, as revised by the Paris Congress (1950, *Bull. zool. Nomencl.* **4** : 74-76); the new trivial name would then adhere to whichever of the comprised taxonomic species (i.e., either that to which the rejected and replaced name is applicable or the species which was actually described under the new name) was first selected under the foregoing Article by a subsequent author to be the species to which the trivial name should be applied. The application of Article 31 in such a case would automatically provide the newly named nominal species with a lectotype or with a figure or previously published description to represent the lectotype.

- (2) It would be possible to establish a rule under which a specific name (binominal combination of generic name and trivial name) published in the manner instanced by Dr. Hinton would be held to have been published twice over in different senses in the same paper: first, as applying to whatever species was represented by the nominal species (in the case cited by Dr. Hinton, the nominal species *Ptinus pilosus* White), for the name of which the new name was published as a substitute; second, as applying to the species actually described under the new name. If this view were taken, the author of the new name (in Dr. Hinton's example, the author Boieldieu) would be held to have published two names which were identical homonyms of one another. The relative precedence to be given to these names could then be determined by the application of the principle of page—and, if necessary, of line—precedence. This is the solution suggested by Dr. Hinton in his application in regard to the name *Ptinus tectus* Boieldieu, and which in a paper published in 1941 (*Bull. ent. Res.* **31** (4): 357-359) he had already provisionally adopted. Later this view was contested by Dr. W. J. Brown (1944, *Canad. Ent.* **76**: 9-10), who considered that no question of homonymy as between two names published by Boieldieu arose in this case which he argued should be settled under the provisions of Article 31 (see Alternative (1) above).

- (3) Finally, it would be possible to argue that, if a name is definitely published as a substitute for some other name, there can be no escape from the objective fact so established, the new name so published adhering in all circumstances to the species to which the rejected name is applicable. According to this view, it would be entirely irrelevant from a nomenclatorial point of view if the author giving the new name (say Boieldieu, when publishing the name *Ptinus tectus*) also at the same time erroneously applied it to some species other than that to which the rejected name was properly applicable. An author using a name in this way would, according to this view, merely have misidentified his new species (in Boieldieu's case, his Tasmanian insect) with a previously described species (in the present example, *Ptinus pilosus* White), which by an irrelevant coincidence the author concerned had renamed in the same paper. This is the solution advocated by Dr. Arkell in his application regarding the interpretation of V. Maire's ammonite names.

10. Considerations relevant to reaching a decision on the question of interpretation raised by such names as "*Ptinus tectus*" Boieldieu, 1856: There are certain considerations which, I consider, need to be evaluated in the Report ultimately to be submitted to the Commission in regard to this matter and on which, therefore, it would be extremely helpful to receive the views of interested specialists. The considerations in question may be summarised as follows:—

- (i) In some cases it would be relatively simple to determine in which of two senses (whether as a substitute name or as a name for a new

species) a given trivial name was first used in any given paper; in other cases (as in Maire's ammonite names) the two concepts are introduced so nearly simultaneously that it would be extremely difficult, if not, in some cases, impossible, to determine, even by applying the principle of line precedence, in which sense the name was first employed. It is inevitable, therefore, that, if a Rule were to be introduced that cases of this kind are to be treated as though the author concerned had published in the same paper two specific names, each a homonym of the other, it would often be impossible, by means of that Rule, to obtain a clear and unequivocal answer to the question at issue, namely to which of the two species concerned the trivial name should adhere, and, in consequence, such an answer could be obtained only by the reference of the cases in question to the Commission for individual decision. This solution is open also to the objection that it involves a fundamental distortion of the intentions of the author of the name in question, who certainly never regarded himself as applying the same name simultaneously to two different species. It would seem, therefore that this solution is not one which would be desirable to adopt if there is any other available which is free from these serious defects.

- (ii) A decision that cases such as that presented by the name *Ptinus tectus* Boieldieu should be treated as constituting the publication of the name of a composite species and therefore that the question of the species to which the trivial name in question should adhere should be determined under Article 31 would provide a procedure which could be readily applied and one which would provide in each case a clear-cut answer, thus avoiding the necessity of referring individual cases to the Commission for decision. Where however we are concerned not (as in the above case) with the problem presented by a single trivial name having been applied to two distinct species, but with the problem of the specimens to be regarded as being eligible for selection as the lectotype of a nominal species expressly described by its original author as a *nom. nov.* and based partly upon new material and partly upon material that has already been described and figured, the application of Article 31 would not necessarily give an equally satisfactory result; for, as Dr. Arkell pointed out in his application in regard to Maire's ammonite names, the question of the author by whom the described material had previously been studied and the locality in which that material had been collected here becomes a matter of considerable importance. The first of these situations may be illustrated by the name *Quenstedtoceras douvillei* published by Maire as a "*nom. mut.*" partly for specimens previously described and figured by Douvillé and partly for fresh material figured for the first time by Maire himself. It could not be regarded as satisfactory if, under Article 31, one of Maire's new specimens were selected to be the lectotype of this species, in place of one of those studied by Douvillé, after whom the new substitute trivial name *douvillei* was given; for such a selection

would clearly do violence to Maire's intentions. An example of the second of the situations is presented by the name *Quenstedtoceras reesidei* published by Maire as a "nom. mut." and based partly upon American specimens previously described and figured by Reeside and partly upon additional material collected in France and figured by Maire for the first time. If in such a case the lectotype were to be determined under Article 31, it would be perfectly legitimate for an author to select as such one of the French specimens figured by Maire. The result would however be most unsatisfactory, for it would provide this species with a lectotype of French origin, notwithstanding the fact that the name *Quenstedtoceras reesidei* was published as a substitute name for an American species originally described and figured by the American Reeside. It is for these reasons that Dr. Arkell has recommended that, where a specific name is expressly published as a substitute name (by the use of the expression "nom. nov." or some equivalent such as "nom. mut.") for some other name (or for some invalid use of another name by a previous author), (1) the type specimen of the nominal species bearing the substitute name shall be the specimen which is the holotype of the nominal species, the name of which (or the name used for which) has been rejected in those cases where that nominal species had a holotype, or the lectotype of that species where a lectotype has been selected, and (2) that, where the original nominal species does not possess a holotype and has had no lectotype selected for it, the only specimens which shall be eligible for selection as the lectotype of the nominal species bearing the substitute name shall be the syntypes of the original species. As part of the foregoing proposal Dr. Arkell has proposed also that there should be inserted in the *Règles* two new *Recommandations* as follows: First, a *Recommandation* urging authors, when proposing substitute names for species described and/or figured by a previous author, not to select as the trivial name of that species a word composed of the earlier author's name or of the locality from which that author's specimens were collected, if it is not intended that the earlier author's specimens should constitute the syntypes of the newly named nominal species. Second, a *Recommandation*, urging that, where an author publishes a name for a species believed to be identical with one previously figured but incorrectly identified by some earlier author, the author publishing the new name should avoid using the expression "nom. nov." or its equivalent, unless the figures published by the earlier author are at least as good as those which could be provided from new material.

- (iii) It will be seen from the foregoing that the proposals submitted by Dr. Arkell deal with cases such as that presented by Boieldieu's name *Ptinus tectus* at least as satisfactorily as, if not better than, any of the other solutions which have been suggested, while his is the only proposal so far brought forward which deals satisfactorily with the kindred problem presented by names such as *Quensted-*

toceras douvillei and *Q. reesidei* published for ammonites by Maire in 1938.

11. Likelihood of the existence of divergent practice among specialists in interpreting names such as "*Ptinus tectus*" Boieldieu, 1856:

It is likely in this, as in other cases where the meaning to be attached to a given provision in the *Règles* is in doubt, that the problem of interpretation presented by such names as *Ptinus tectus* Boieldieu has been dealt with differently by specialists in different groups, while in this particular case we know, from the particulars given in paragraph 9(2) above, that specialists in the same group have taken different views with consequent instability and lack of uniformity in the nomenclature of the species concerned. For the purpose of ascertaining the manner in which the rare cases of the foregoing type have been dealt with when they have arisen, it would be extremely helpful if specialists would be so kind as to furnish examples of any cases of this sort which they are aware of in their own groups.

12. Probable need for a saving clause to prevent the interpretation now to be given from causing confusion and undesirable name-changing in particular cases :

Whatever decision is ultimately given by the International Congress of Zoology as to the interpretation of names of the kind with which we are here concerned, it is likely that the automatic application of that decision would give rise to confusion and undesirable name-changing in the minority of cases where that decision ran counter to current nomenclatorial practice. In order to deal with this contingency, it will, no doubt, be desirable, as in the case of generic names published in generic synonymies discussed in the immediately preceding paper in the present series of pre-Congress papers (1952, *Bull. zool. Nomencl.* **7** : 117—118), that the Congress, when taking its decision, should impose also upon the International Commission on Zoological Nomenclature the duty of taking such special action as may be necessary to prevent any objectionable disturbance of existing nomenclatorial practice from arising as the result of the new provision. Cases such as *Ptinus tectus*, where specialists in the same group are in disagreement with one another and in consequence have interpreted a given specific names in different ways will need to be dealt with individually on their merits, that is, either by applying the new rule (whatever it may be) to them or, if the case is considered to be of sufficient importance, by the submission of the case to the Commission as one possibly calling for the use by the Commission of its plenary powers.

13. Questions on which the advice of specialists is now sought :

The questions on which the advice of specialists is now sought are :—(1) Do you know of any cases in your own group in which a specific name, when first published (i) was expressly stated to be a substitute name for some previously published specific name, and (ii) was also accompanied by a description of a given species (or of specimens belonging to a given species) different from that to which the rejected specific name is correctly applicable? If so, please give examples, at the same time stating how specialists have interpreted the specific name in question. (2) Which of the following possible rulings by the Com-

mission and the Congress would, in your opinion, be the best, in the sense of being the most logical and the most easily applicable ruling in such cases and the one calculated to lead to the minimum of disturbance in current nomenclatorial practice: (a) a ruling that a nominal species established in the foregoing manner is to be treated as a composite species and therefore that the species to which the new trivial name is to adhere should be a matter for determination under Article 31; (b) a ruling that in such a case two nominal species, bearing identical specific names (i.e. identical combinations of generic name and specific trivial name) are to be deemed to have been established, one of these names to be held to apply to the species bearing the rejected specific name, the other to the species described under the new name, the relative priority to be accorded to these two homonyms to be determined in accordance with the procedure laid down for determining the relative priority to be accorded to any pair of names published in the same book and on the same date; (c) a ruling that the new specific name in question is to be treated as applying automatically to the species bearing the rejected name (i.e. that such a name should be treated strictly as a substitute name), the other use of the new name being treated as having been due to a misidentification on the part of the author concerned?

(b) Case where a trivial name, when first published, is both (1) directly applied to a given species or specimens and (2) is implicitly treated as being a substitute for some previously published name or for some incorrect use of such a name

14. Historical introduction: In the second part of the application discussed in paragraph 2 above, Dr. W. J. Arkell raised a problem which closely resembles that raised by the names *Ptinus tectus* Boieldieu (paragraph 7 above) and *Quenstedtoceras douvillei* Maire (paragraph 8 above) but which differs in that the name calling for interpretation was not expressly published as a substitute name (nom. nov.) for a previously published name or for a particular previously published usage of a name, though it was made clear by the author of the new name that, in part, the new name was applied in this sense.

15. Two examples cited in Dr. Arkell's application: Dr. Arkell illustrated the situation specified above by citing, as examples, the specific names *Quenstedtoceras lorioli* Maire, 1938, and *Cardioceras uhligi* Maire, 1938. These examples are exactly parallel to one another in every respect:—(1) Each of these nominal species was described by Maire as a new species ("sp. nov."); (2) Each of these nominal species was described, partly on the basis of new material and partly upon the basis of previously published figures; (3) In each case the name of the previous author by whom the cited figures had been published was selected by Maire as the basis for the trivial name of the new nominal species—

in the first instance, the name de Loriol, in the second instance, the name Uhlig. Dr. Arkell points out in his application that an exactly similar situation would arise if an author published a name for a new nominal species (i.e. name published as "sp. nov." or equivalent), that species being based partly upon new material and partly upon previously published descriptions or figures, the word chosen for the trivial name of the new nominal species being composed of, or based upon, the name of the locality in which one or more of the previously described or figured specimens then cited had been obtained.

16. The proposal submitted by Dr. Arkell : The proposal submitted to the Commission by Dr. Arkell was that in a case such as that presented by the specific name *Quenstedtoceras lorioli* Maire the only specimen or specimens which should be regarded as eligible for selection by a later author as the lectotype of the species concerned should be the specimen or specimens described by the earlier author, which had been cited by the author of the new specific name, when publishing that name, i.e., that in the case instanced above the only specimens described, figured or cited by Maire when publishing the new name *Quenstedtoceras lorioli* which should be eligible for selection as the lectotype of the nominal species so named should be those specimens for which Maire cited bibliographical references to earlier papers by de Loriol. Dr. Arkell further proposed that a similar rule should apply to cases where the trivial name of a nominal species published as a new species is composed of, or is based upon, the name of the locality in which one or more of the specimens, to previously published descriptions or figures of which bibliographical references were cited in the description of the new nominal species. Under a provision such as that proposed above, if enacted in mandatory form, the new material brought forward by the author (e.g., Maire) by whom the new specific name was published would be rendered ineligible for selection as the lectotype of the nominal species so named, while if the provision took the form of a non-mandatory *Recommendation*, that material would be material which authors would be recommended to ignore when selecting a lectotype for such a species.

17. Questions on which the advice of specialists is now sought : The questions on which the advice of specialists is now sought (i.e. the questions supplementary to those enumerated in paragraph 13 above) are : (1) Are you in favour of a provision that, where a new nominal species (i.e. a nominal species described as *sp. nov.* or equivalent) established without a designated or indicated holotype (a) is based partly upon previously published descriptions and/or figures and partly upon new material and (b) is given a trivial name based upon the name of the previous author by whom descriptions and/or figures cited by the author of the new specific name had been published, the only specimen or specimens eligible for selection as the lectotype of the new nominal species so named should be that specimen or those specimens which the earlier author had described and/or figured in the work cited by the author of the new specific name ? (2) Are you in favour of a provision under which, in a situation differing from that described above only in that the word chosen

as the trivial name of the new nominal species is composed of, or is based upon, the name of the locality in which were obtained the specimen or specimens, to earlier published descriptions or figures of which a bibliographical reference is given by the author of the new specific name, the only specimen or specimens which would be eligible for selection as the lectotype of the nominal species so named would be that specimen or those specimens so referred to, which had been obtained in the locality so indicated?

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IMPORTANT NOTICE

The papers published in the present Part have been prepared for the express purpose of drawing attention to certain important questions relating to the clarification, amendment and expansion of the *Règles Internationales* which will be considered by the Fourteenth International Congress of Zoology at its meeting in Copenhagen in 1953.

Interested specialists are particularly invited to furnish comments and advice on the foregoing questions, so that account may be taken of their views in the formulation of recommendations to the Copenhagen Congress.

Specialists responding to the foregoing appeal will render a double service to the International Commission on Zoological Nomenclature, if, when they furnish statements setting out their views, they will be so good as to send those statements, typewritten on one side of the page only, double-spaced and with wide margins. All such statements should be furnished in duplicate.

Unnecessary work and consequent delay are caused in the office of the International Commission, if statements on two or more subjects are sent on a single sheet of paper, owing to the copying which this involves. Correspondents are therefore particularly requested, when furnishing notes to the Commission on more than one subject, to use a separate sheet of paper for the note on each subject.

All communications should be clearly marked with the Commission's Reference Number and should be addressed to FRANCIS HEMMING, C.M.G., C.B.E., Secretary to the International Commission on Zoological Nomenclature, 28 Park Village East, Regent's Park, London, N.W.1, England.

VOLUME 6

This publication of Volume 6 of the *Bulletin*, which deals with applications relating to individual nomenclatorial problems, was interrupted to permit of the publication of the present volume relating to general problems to be submitted to the Copenhagen Congress in 1953. The remaining Parts of Volume 6 will be published at an early date.